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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2015/2016

BBF 3124 – FINANCIAL DERIVATIVES

(All sections / Groups)

11th MARCH 2016

3.00 p.m. – 5.00 p.m.

(2 Hours)

INSTRUCTIONS TO STUDENT

1. This Question paper consists of 3 pages with 5 Questions only.
2. Attempt **FOUR** out of **FIVE** questions. All questions carry equal marks and the distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

QUESTION 1

In mid October 2015, a dealer believes that there may be opportunity for an arbitrage given the world market continued volatility. He is willing to invest an equivalent of 1500 tonnes for the arbitrage between FCPO and the physical CPO market.

He has the following data available:

October 2015

Spot price	RM2000
November FCPO	RM2100
December FCPO	RM2150
Dividend yield	0
Monthly storage cost	RM20
Risk free rate	4%

- Calculate the correct price of December FCPO.
(5 marks)
 - How should he arbitrage based on the above?
(5 marks)
 - What would be his profit if the spot price is RM2200 at maturity?
(10 marks)
 - Discuss normal backwardation and contango in light of the above scenario.
(5 marks)
- (Total: 25 marks)

QUESTION 2

- Suppose that call options on CIMB stocks have strike prices of RM5.50 and RM 6.00 with respective premium of RM0.80 and RM 0.50 respectively. How would you create i) Bull Spread, and ii) Bear Spread with these options? (Illustrate using table and payoff diagrams)
(16 marks)
 - Compare and contrast between naked call and covered call strategies.
(3 marks)
 - Describe “moneyness” conditions for both call and put options.
(6 marks)
- (Total: 25 marks)

Continued...

QUESTION 3

Dr. Devinaga has gone long Maybank stock at RM10.00. She subsequently longs a RM10.00 put and shorts a RM10.00 call on the stock. After a period of instability, the stock finally stabilizes at RM10.00. Both the call and put premiums ended up at RM0.50.

- a. Illustrate her strategy by means of a payoff diagram. Show the overall position by using RM0.50 profit/loss interval for the vertical axis and RM1.00 price interval for the horizontal axis. What should be her final overall strategy?

(14 marks)

- b. What is the strategy undertaken by Dr. Devinaga in the above? What is the risk profile of her strategy?

(4 marks)

- c. What is her objective in implementing this strategy?

(7 marks)

(Total: 25 marks)

QUESTION 4

As an advisor to a number of clients, you have been asked to determine the total profit or loss (in Ringgit Malaysia) in each of the following transactions:

- a. Mr. Afandi goes long one lot of Tenaga Berhad stock at RM10.00. He then buys one at-the-money call option on Tenaga at RM0.22. Tenaga stock price is RM10.40 at option maturity.

(6 marks)

- b. *All other things remaining the same*, if Mr. Afandi had bought a put option instead, what would be his profit/loss?

(5 marks)

Continued...

- c. Mr. Azizi and Mr Gerald have different expectations about market performance in the near future. Mr. Azizi decides to long a 1000 points index call @ 15 points and shorts a 1000 points index put @ 10 points. Mr. Gerald does the exact opposite. Determine the profit/loss to each for the following index value at option maturity if the index multiplier is RM100 per point:
- i. 1030 points
 - ii. 960 points
 - iii. 1000 points
- (12 marks)
- d. What type of market participants are they (in part (c) above) based on their respective expectations?
- (2 marks)

(Total: 25 marks)

QUESTION 5

Mr. Aaron who works on the arbitrage desk of a futures brokerage firm noticed that on 24th June 2016 the 3 month KLIBOR is 6.75% whereas the 6 month KLIBOR is 8%. He also observed that the 3 month KLIBOR futures maturing on 24th September 2016 is priced at 93.00.

- a. Help him to determine the correct price of the 3 months KLIBOR futures.

(5 marks)
 - b. Should Mr. Aaron arbitrage? If yes, how? If no, why not?

(5 marks)
 - c. Assuming the 3 month KLIBOR rate on 24th September is 9%, show the outcome based in (b) above.

(15 marks)
- (Total: 25 marks)

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